



# **BADGER STATE Smoke Signals**

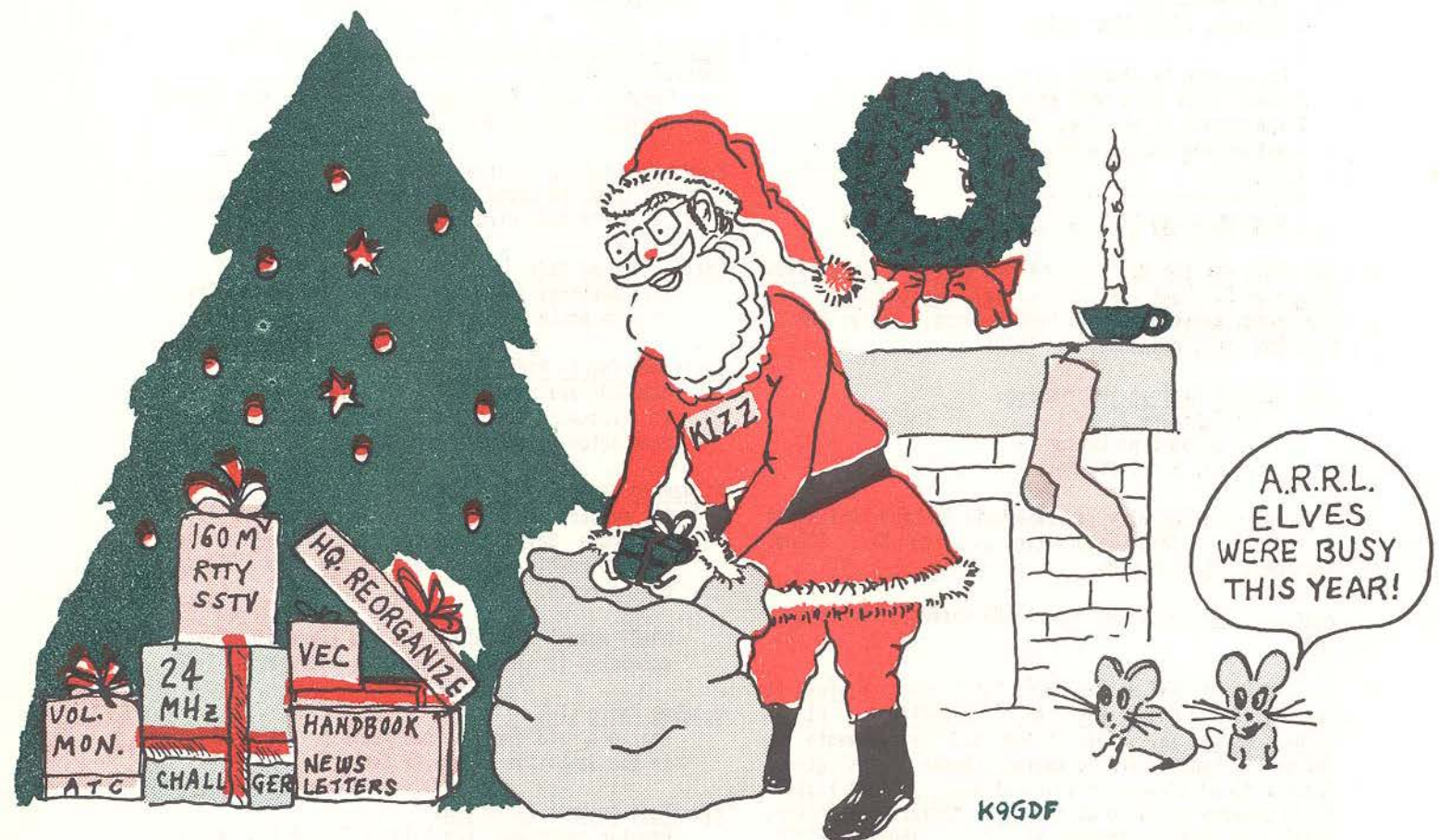


**Serving Amateur Radio in Wisconsin**

**Published Monthly Since 1969**

Vol. 16 No. 12 - 192nd Consecutive Monthly Issue - Baraboo, Wis. - December 1985

## **Happy Holidays!**



Badger State Smoke Signals supports: The American Radio Relay League (ARRL) - The Wisconsin Nets Association (WNA) - The Wisconsin Association of Repeaters (WAR) - The Amateur Radio News Service (ARNS) - The Courage Handi-Ham System - The Morse Telegraph Club - GEARVAKf (The 'f' is silent)

**Badger State Smoke Signals****Officers:**

Ken Ebnetter, K9EN, Chairman  
 Jim Romelfanger, K9ZZ, Editor  
 Jim Decker, W89UQT, Treasurer

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 Portage, Wisconsin 53901

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**SWAPFESTS AND OTHER SOCIAL EVENTS**

The date for the West Allis Radio Amateur Club's 1986  
Midwinter Swapfest will be Saturday, January 11 at the  
 4-H forum, Waukesha County Expo Grounds. Write: WARAC,  
 P.O. Box 1072, Milwaukee, WI 53201

**1986 Wheaton Hamfest information:**

February 2, 1986  
 Odeum Expo Center  
 Villa Park, Illinois

Size of the facility is comparable to the Arlington  
 Race Track. This information is from Mac, N9DUW,  
 President, Wheaton Club.

February 23, 1985: Davenport ARC Hamfest, Davenport,  
 IA.

The Tri County ARC will sponsor their annual Hamfest at  
 the Jefferson County Fairgrounds in Jefferson, WI on  
Sunday March 16, 1986. Food and refreshments by  
 Jefferson County 4-H. Amateur Radio exams given.  
 Ticket: \$2.50 advance or \$3.00 at door. 6 foot tables:  
 \$3.00 advance or \$4.00 at the door. Contact Bob Barker,  
 K9RIJ, 724 Burdick, Milton, WI 53563. (608) 868-2871.

The Ozaukee Radio Club's Cedarburg Swapfest dates are  
May 3, 1986 and May 2, 1987. Contact Skip Douglas,  
 KA9DDN.

The Central Wisconsin Radio Amateurs, Ltd. Stevens  
 Point Swapfest and Family Picnic will be held Sunday,  
June 15, 1986.

The 1986 South Milwaukee Swapfest will be held on July  
12, 1986.

(We hope this early information will help avoid having  
 3 section swapfests on the same day next year.)

As a service to our readers, this section of Badger  
State Smoke Signals is available without charge to list  
 your upcoming Swapfest, Hamfest, dinner, picnic, party  
 or other event of interest to Radio Amateurs in Wis-  
 consin and nearby areas.

Send information on your event to Kenneth A. Ebnetter,  
 K9EN, 822 Wauona Trail, Portage, WI 53901. In  
 addition, space is available at attractive rates on our  
 advertising pages, and/or we can include your flyers.  
 For information on rates and requirements for our  
 advertising pages, and/or for including flyers, please  
 contact K9ZZ or K9EN.

**CLUB MEETINGS:****Badger Amateur Radio Society**

(W9YT - University of Wisconsin - Madison)

Regular monthly meetings are held at 7:30 PM on  
 the 2nd Wednesday of every month while school is  
 in session, in B314 Electrical Engineering  
 Building.

**Central Wisconsin Radio Amateurs, Ltd.**

(Stevens Point)

Regular club meetings are held on the second  
 Wednesday of the month.

**Four Lakes A.R.C. (Madison WI)**

RED CROSS BUILDING, 4860 Sheboygan Ave, Madison,  
 WI., first and third Tuesdays each month.

**Kettle Moraine Radio Amateurs:**

All meetings are held on the SECOND (2nd) Friday  
 of each month.

**Manitowoc County Radio Amateurs**

MANCORAD meets on the third Wednesday of the month  
 at 7:30 p.m. at Manitowoc Red Cross at 20th and  
 Washington Streets in Manitowoc WI.

**Milwaukee Radio Amateurs Club:**

All regular meetings of MRAC scheduled for 1986 at  
 Wauwatosa Savings and Loan Building, 7500 West  
 State Street, will be held on the second Thursday  
 of the month.

MRAC annual Christmas and Old Timmers dinner is  
 scheduled for Thursday evening, December 5, 1985.

**Ozaukee Radio Club**

Meetings held every second Wednesday at 7:30 p.m.  
 in the Saukville Community Center

**Riverland Amateur Radio Club**

Regular meetings are held at 7:30 P.M., on the  
 first Wednesday of each month in the Onalaska Com-  
 munity Center in Onalaska, WI.

**South Milwaukee Amateur Radio Club**

Meetings held at Legion Post 434, Shepard Ave.,  
 Oak Creek, on first Wednesday of the month.  
 Auctions held at March and October meetings.

West Allis Radio Amateurs Club

Regular meetings are held on the second Tuesday of each month at St. Francis Savings, 9330 W. Greenfield Ave., at 8:00 P.M.

The annual Christmas Party/Awards dinner will be held on Sunday, December 1. The 1985 Member of the Year will be honored.

The Wisconsin Valley Radio Association  
(Wausau)

Holds regular monthly meetings on the first Tuesday of the month at 7:30 p.m. The location varies, but information is available on the 146.04/64 repeater in Wausau.

Yellow Thunder Amateur Radio Club:

(Baraboo, WI)

All regular meetings of YTARC are held in room 30 of the Baraboo Civic Center. (Except for Monday meetings, which will be in room 25.) Meetings start at 7:30 P.M.

The meeting dates for 1985 are: Dec. 12.

Let us know of your club meeting dates, and we will let others know of your meetings and activities. There may be Amateurs in your area interested in joining your club, or members of other clubs interested in making an interclub visit.

MISCELLANEOUS MISCELLANEOUS MISCELLANEOUS

Oh what the heck -- items of interest:

Green Fox Amateur Radio Club

(Green Lake)

FOXTALES

The following were elected as officers for the 85/86 year:

President, Jack Bremer, KB9WC  
Vice-Pres., Steve Loeffler, WB9ZRE  
Secretary, A. C. Ramage, WB9RBC  
Treasurer, Mac McCurdy, W9CXX

Kettle Moraine Radio AssociationKETTLE DRAWS

FIELD DAY: Well, the results are in! While we didn't do as well as we hoped, we still maintained out 5th place in the 4A class, the same as last year. Although we improved our score substantially over previous years, so did a lot of other groups.

Milwaukee Radio Amateurs ClubHAHA TEUR CHATTER

Ralph Koenig, W9RUF, who suffered a broken neck last July is slowly recovering and has been moved back to the Milwaukee area is now residing at the Sacred Heart Rehabilitation Hospital at 1545 South Layton Boulevard, Milwaukee, WI 53215. Cards, letters and visits are in order. Sacred Heart phone is (414) 383-4490.

Taylor County Area Amateur Radio ClubTaylor County ARES

Congratulations to Marc, (WA9ZCD) and Pam Winzenried, married August 31.

Also, congratulations are in order for Scott Young, KA5SNP, a student at Colby High School and a member of that school's High Quiz Bowl team, which completed 3 consecutive victories against other schools teams, and will now compete in the Super Bowl playoffs in the spring of 1986.

Iri-County Amateur Radio Club

A demonstration of Packet Radio was given at the October meeting by Art, N9TD, and Bob, K9RIJ, who was not at present at the meeting.

West Allis Radio Amateurs ClubWASTAIX

Elected at the October meeting as officers for the 1985-86 year were:

President, Ray Hoffman, WB9JYR  
Vice-Pres., Les Peterson, W9YCV  
Sec., George Schlessinger, K9ILV  
Treasurer, Ron Hooker, K9WTF  
Director, Dave Engelmann, WB9GZP  
Director, Ed Scrip, WA9MAH

Les Peterson, W9YCV, now has 81 grid squares and 22 states confirmed on 2 meters.

Dave Knaus, WA9POV, received a QSL from AA4KP in Virginia for a QSO on 145.27 FM via a West Virginia Repeater.

Our thanks to the above mentioned clubs and their bulletins for the information presented. Badger State Smoke Signals will be pleased to exchange bulletins and information with your club. Please contact K9IZ or K9EN.

THE TEST POINT

The following are known locations where Amateur Radio license examinations are scheduled in the Badger State area.

December 7, 1985	Wausau, WI
December 7, 1985	Minneapolis, MN
December 11, 1985	Milwaukee, WI
December 14, 1985	Milwaukee, WI
January 25, 1986	Wis. Rapids, WI
January 25, 1986	Madison, WI
February 1, 1986	Duluth, MN
March 8, 1986	Stevens Point, WI
April 6, 1986	Madison, WI
June 15, 1986	Stevens Point, WI
November 1, 1986	Stevens Point, WI

General rules for all examinations:

All examinations require filing an FCC Form 610 and advance registration at least 30 days before the exam date. (Some VECs may permit walk-ins. Check with sponsor to find out if they allow walk-ins.)

To register for these examinations, you must first secure a copy of the current FCC Form 610 (the one dated June 1984) and fill it out completely (AND CORRECTLY). Get your form from the FCC Field Office, the ARRL or Badger State Smoke Signals. Send a 22¢ SASE if you request one from the ARRL or BSSS. In most cases, forms can also be obtained from the sponsoring



group. Remember-- you must file at least 30 days in advance unless otherwise indicated.

ARRL/VEC examinations require a check for \$4.00 payable to ARRL/VEC.

The FCC now requires applicants to show their original Amateur license to the VEC. As in the past, a copy of your license must be attached to the properly filled out FCC form 610.

Additional information is given below.

Saturday, January 25, 1986 - Madison, WI (8:30am)

City of Madison Fire Station #2, 421 Grand Canyon Drive, West side of Madison, across from Chi Chi's near West Towne Mall.

Sunday, April 6, 1985 - Madison, WI  
(NARA Swapfest - No admission fee for testees)

Walk-ins Accepted.

Contact: Gary Lincoln, W9UDY  
6015 Winnequah Rd.  
Monona, WI 53716

March 8, 1986 Stevens Point, WI  
June 15, 1986 Stevens Point, WI (CMRA Swapfest)  
November 1, 1986 Stevens Point, WI

ARRL/VEC - Central Wisconsin Radio Amateurs, Ltd.

Contact: Joe Larson N9JW  
644 Portage Street  
Stevens Point WI 54481

January 25, 1986 - Wisconsin Rapids, WI

Held at: Midstate Technical Institute, 500 32nd St. N., Wisconsin Rapids, WI. 19/79 talk in.

NO WALK-INS -- You must register with form 610 by December 31, 1985

Contact: Gene Santoski, K9UTQ  
1220 18th Avenue So.  
Wisconsin Rapids, WI 54494

Wednesday, December 11, 1985 Milwaukee, WI (7:00pm)  
Saturday, December 14, 1985 Milwaukee, WI (9:00am)  
Saturday, February 9, 1986 Milwaukee, WI (9:00am)

MILWAUKEE METRO AREA TEST TEAM.

(MRAC - VEC) In room 256 at the Wauwatosa East High School, 74th and Milwaukee Ave. Use the East (74th Street) entrance.

File on a Postal System post card (14c) mailed to:

The Milwaukee Radio Amateurs' Club, Inc.  
N50 W16328 Pin Oak Court  
Menomonee Falls, WI 53012

PLEASE PRINT listing the grade of license you are applying for, your name, address, including Zip Code and your telephone number.

MRAC -- Your Wisconsin based VEC for Region 9.

#### The Milwaukee Volunteer Core Group

(DeVry VEC) will be giving Amateur Radio exams in the Service Occupation Building, rooms S0208 and S0209 at the Waukesha County Technical Institute. The exams will begin at 9:00 a.m. Walk-ins are welcome. We will have exams for the visually impaired available in Novice thru Extra.

December 14

If you are interested, please send a POST CARD with your NAME, ADDRESS, TELEPHONE NUMBER, and the DATE on which you wish to be tested, and the GRADE of license you wish to be examined for to:

Syl Janczak WD9JKZ  
3127A West Madison  
Milwaukee WI 53215

Exams for shut-ins are given by appointment only.

February 1, 1986

Arrowhead RAC, Duluth MN

Contact: Eddy Lonnstrom  
2026 Baxter Ave.  
Superior, WI 54880

Dec. 7, 1985 - Minneapolis, MN

Minneapolis Radio Club

Contact: Tony Becker  
3638 Pleasant Ave. S  
Minneapolis, MN 55409

This section of Badger State Smoke Signals is available to publicize your Volunteer Examiner Amateur Radio license examination schedules.

Please send us your schedules of dates, times, and locations that you will be conducting examinations and we will include the information here. Be sure to include contact address and any other necessary requirements. Information should be sent to K9EM or K9ZZ at the address shown on page 2.

We inadvertently left off the first name of Peter Franks, KD9RO, in last month's report of those who upgraded at the KMRA Swapfest. Sorry.

## EXAM RESULTS

## CENTRAL WISCONSIN RADIO AMATEURS

-----  
 Frank Guth W9BCC  
 1632 Ellis Street  
 Stevens Point WI 54481  
 -----

Here are the results of Amateur examinations given on November 2, 1985:

## TO EXTRA CLASS

Frank Guth, W9BCC, Stevens Point

## TO ADVANCED CLASS

Bruce Walther, W9QAH, Stevens Point

## TO GENERAL CLASS

John Grabowski, KA9LEL, Nausau  
 Mary Grabowski, KA9LCE, Nausau  
 Thomas Dixon, KA9NBU, Ft. Atkinson area

## TO TECHNICIAN

James Popanz, KA9UBZ, Nausau  
 Gary Johnson, KA9TCK, Wisconsin Rapids  
 Bob Drengberg, KA9PQX, Stevens Point  
 Rick Broderick, KA9UAH, Nausau

Thirteen examinees were present in all, producing approximately a 70% passing rate.

Examiners for this test session were Rick Miller, KC9FW, Scott Jasper, NE9U, and Joe Larson, N9JW. Observing was Dick McCollum, N0BK, Nausau.

(My sincere congratulations to Frank, W9BCC, on attaining Extra Class! To the best of my knowledge, he holds the longest standing editorship of an Amateur newspaper in Wisconsin, editing the CWRA paper "Watts Snoo" for somewhere around 20 years, or close to that. I believe my editorship of this paper is next in longevity in Wisconsin, now at 16 years. Anyway, Frank, it couldn't have happened to a nicer guy! k9zz).

## TOP BAND STARTS ITS SLIDE

-----  
 The ARRL Letter  
 November 7, 1985  
 -----

By FCC Report and Order released October 31, non-government radiolocation has been given primary status at 1900 - 2000 KHz.

FCC believes this action in PR Docket 84-874 is a necessary prerequisite to future displacement of radiodetermination now at 1605 - 1705 KHz, a position ARRL disputes.

A future proceeding will address possible expansion of standard broadcasting at 1605 - 1705 KHz in the Western Hemisphere. ARRL's fight against this reallocation had been in the works for many months; see Happenings, November 1984 QST.

Effective December 9, 1985, Amateur stations in the 1900 - 2000 KHz range must not cause harmful interference to the radiolocation services, and are afforded no protection from interference arising from radiolocation operations.

Though FCC will not accept applications from 1605 - 1705 KHz radiodetermination stations for moves to 160 until July 1, 1987, plans are afoot to allow new spread-spectrum radiolocation stations access to 1900 - 2000 KHz as early as December 9 of this year.

FCC claims that Amateurs will still have "virtually exclusive non-government use of 1900 - 2000 KHz until private radiolocation transmitters become operational."

ARRL may file for reconsideration. January QST will cover more of the 1900 - 2000 KHz reallocation and resultant changes to Part 97.

## INTERNAL REVENUE SERVICE ELIMINATED

(From GEARVAKf Bulletin, Spring, 1985)

Announcing another deficit cutting measure last week, Reagan administration Budget Director David Stockman said that the Internal Revenue Service would be eliminated at the end of 1985.

"The IRS is not earning its keep," said Stockman. He explained that the expense of collecting taxes exceeds the money brought in by the tax collectors.

Beginning in 1986, all citizens will be put on their honor to send in their fair amount of income taxes according to the tax laws passed by Congress. Tax returns will not be audited.

"Several well-known syndicates will be placed in charge of collections and will receive a percentage of the take," said the Budget Director. "Anyone caught cheating on his or her taxes will probably have his or her knees broken," he said.

## ION CLOUD FOUND OVER GEARVAKf HQ

(From GEARVAKf Bulletin, Spring, 1985)

Poor radio propagation from the vicinity of GEARVAKf Headquarters the past eight months has been blamed on an unusually dense F2 layer hovering over the area, the GEARVAKf Scientific Studies Committee announced yesterday.

According to Committee Chairman Dr. Avruell U. Harnishe, the cloud is reflecting all radio signals into the ground, impairing DX and local contacts from the GEARVAKf antenna farm.

"The F2 dome is so dense," said Harnishe, "that even VHF and UHF contacts are made difficult."

Harnishe had no explanation for the existence of the cloud. "Maybe the FCC put it there," he speculated.

-WB8SLU, WBLCZ, KVM5149

## DAH DI DAH DI DAH

## RV OWNERS

-: - - - - -:-

Bob Johnson WB9EIW  
Pardeeville WI 53954

-: - - - - -:-

Here is a suggestion that may help you if you are an RV owner, and like to put up an inverted "V" or dipole when you stop.

The XYL and I have a travel trailer, and pull it with a Jeep Cherokee. I have an Atlas 210X and a Hustler whip for the HF bands. It does a pretty good job on all bands while we are in motion, but when we stop, we like something for an antenna that gets out a little better than the whip, especially on 75 and 80 meters.

This is what I did:

Take about an eighteen to twenty inch long piece of well pipe (1/2" L.D.). Weld a bolt to the bottom of the well pipe such that the threads protrude from the end. It should look something like the drawing on this page (Fig. 1).

I used a one inch bolt, but be sure the one you use will fit the hole in your trailer hitch.

Now, when you remove the ball from your trailer hitch, this bolt, with pipe attached, can be put into the trailer hitch.

I carry two 10' sections of TV masting, which can easily be inserted into the well pipe.

The center insulator of my dipole or inverted V is notched into a piece of PVC about 15 inches long. This can be slipped over the top section of the TV masting.

The ends of the inverted V can be tied to trees or what have you, but will work, even if they must come to the ground.

WB9QDT and myself used this method, but with three 10' sections of TV masting, and managed to win first place in the 1985 Wisconsin QSO Party for single transmitter, multioperation.

However, if you use three sections of masting for 30'+ height, I would recommend three nylon rope guys in case a wind comes up.

A further addition that I use now follows: I took an old trailer hitch and removed all the attachments, except the main tongue or bar. I can now bolt my well pipe

permanently to this. The tongue or bar can simply be clamped to the site's picnic table (every site has a picnic table) with two large C clamps.

This gives me the 20' height of the TV masting, and the approximate 30' of picnic table.

If you want to work all HF bands, put a pulley on the end of the top TV section with a rope. Then put a jumper wire over the end insulator of each band that you're not using. This works well also; we used it in the U.S. Virgin Islands on 15 and 20 meters and talked to the home QTH every day, even though the antennas were up only about fifteen feet.

Fig. 1

Use 1 1/2" L.D. well pipe, approximately 18 to 20" long. The nut and bolt in the bottom are chosen to fit the hole in your hitch.



HAPPY HOLIDAYS TO OUR  
READERS.. FROM THE STAFF OF  
BADGER STATE SMOKE SIGNALS:

Ken Ebnetter, K9EN, Portage, Publisher  
and Chairman

Jim Decker, WB9UQT, Baraboo, Keeper of  
the Funds (Treasurer)

Jim Romelfanger, K9ZZ, Baraboo, Editor

Thank you for your support of our  
volunteer effort to keep Wisconsin  
Amateurs informed.

May 1986 be a year filled with good  
fortune and happiness!



"WX IS WET... ABOUT 2:1 SNOW WITH RAIN"

## FCC FORM 610 - BE SURE IT'S CURRENT!

On October 17, 1984, the Commission released a Public Notice alerting Amateur Radio Service applicants that a date would be set after which all previous editions of the FCC Form 610 (prior to June 1984) would no longer be acceptable for filing.

Effective January 1, 1986, only the June 1984 and later editions of FCC Form 610 may be used to obtain an Amateur license.

Applying on earlier editions of the form after January 1, 1986 will delay issuance of your license as your application will be returned without action and you will be required to refile on a current form.

For further information contact the Consumer Assistance Branch, Private Radio Bureau, Gettysburg, PA 17325. Telephone number 717-337-1212.

(FCC Public Notice, October 17, 1985)

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## OTHER FCC NEWS

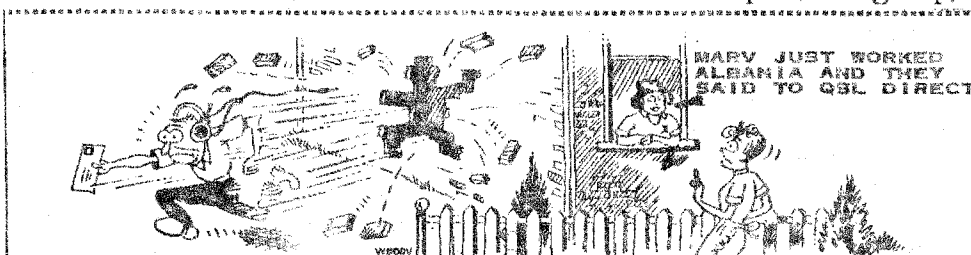
The Chicago District Office of the FCC is updating its listings of current Television Interference Committees.

Those records are maintained for the assistance of both the individuals who are receiving the interference and the radio operator causing the interference. TVI Committees have been very helpful in the past in helping to eliminate interference complaints.

Most clubs received a form from the FCC's District 18 office to be filled out and returned by club personnel who presently take part in TVI activities and who are willing for the FCC's office to release that information in certain interference cases.

If your club or group did not receive the form, and you are currently active in helping with TVI cases, we suggest you contact the FCC, 1550 Northwest Highway, Room 306, Park Ridge, Illinois 60068.

We assume the FCC's District 16 office in Saint Paul is also updating their TVI Committee records as well; if interested, check with that office.



Thanx "The Ground Wave" St. Paul ARC

## LONDON SQUARE MALL CALLS

(Editor's Note: Lisa Harper, KA9RII, Eau Claire, sends the following report on a weekend-long demonstration of Amateur Radio at London Square Mall, Eau Claire):

We started setting up around 12:30 p.m. on Friday, October 25. We didn't have as much help as we would have liked, but we know now for next year to have an antenna crew lined up, and to get the antennas up 2-3 days ahead. We attracted lots of attention during the setup, and generated some traffic at that time.

We had three functional HF stations: (1) 2 - 2-meter stations (2) RTTY and Morse code with computer readout (the public got a kick out of being able to read those funny sounds!) and (3) slow-scan TV, which went over real big, even though the screen we had was about 3" x 3".. next year, a bigger monitor.

We also had a general coverage receiver for people to tune around and listen, a VCR and TV running continuously to attract people as they walked by (worked like a charm.. showed lots of tornado and Skywarn stuff that really caught their eyes), a traffic table (not too successful.. 7 or 8 messages generated), a Handi-Ham table (very successful; the number of handicapped people was really amazing), an Emergency Services table with handouts, and a big poster detailing our coverage and the function of Skywarn. We also had a MARS table, which generated some interest.

During the weekend, 8 people signed on the dotted line for the next Novice class.. an excellent number, I think. Most people don't jump into something like this. Hopefully, some more will read and think about the brochures we handed out and call the phone number given. Only time will tell just how many we actually reached.

One of the neatest aspects of the project was watching the club members get together and do their thing.. TOGETHER. We had people involved who hadn't been very visible until then.. both newer and OLDER club members. I like to think that this may be the beginning of a closer, more cooperative group, one that's willing to get

involved and active with projects like this. I personally got to know a few of my fellow club members much better, and that really was a highlight for me.

73, Lisa, KA9RII



On November 6, 1985 at 7:36 p.m. the regular monthly meeting of the Riverland Amateur Radio Club was called to order by President Craig Goldbeck.

Minutes of the October meeting were approved as read from the Badger State Smoke Signals with the following correction: Add Assistant to Technical Coordinator in paragraph 7. The Treasurers report was approved.

37/97 Report: It was reported that the autopatch has been changed to time out after 3 min. of use. There was also a discussion on the repeater causing interference with the scanners at the WXOW station. The repeater committee will continue to investigate this problem.

The committee is also working on the emergency power back-up so it is more reliable in the event that it is needed.

The next Exam Session is scheduled for December 11, 1985. Contact Rick Williams at 783-8028 if you want to take the exam.

Dick, K9DXO, gave a very informative talk on the status of the repeater at the WXOW site. He has requested that if anyone is to do any work on the repeater, please notify him a day in advance before going to the site. It has been requested that a letter be drafted up and sent to the new management at WXOW explaining the importance of the service the station has been providing over the last several years.

OLD BUSINESS: The club is still looking for a large coffee pot that can be left at the Community Center for our club meetings.

NEW BUSINESS: It was decided that our Christmas Dinner this year would be held in January. Duane will get the needed information and report back to the club at the Dec. meeting.

It was brought to the members that the dues were due to the Minnesota

Repeater Council, this is due on both the 37/97 and RTTY repeaters, the dues will be paid by the Dec. meeting.

It was brought to the membership's attention that RARC has an outstanding bill due from 1 year ago because a member failed to transfer the money to the persons involved. The club chose the option of letting this person pay the bill in a reasonable length of time, if not, the club would repay the bill and take further action at the December meeting.

It was noted that the 32nd Engineering Division from Onakaska would be in Europe in late January and early February, they have informed us that they will be using Amateur Radio to send messages back to LaCrosse.

Meeting was adjourned at 8:25 p.m. Total members present was 23. No program was scheduled.

Respectfully submitted:

Greg A. Miller  
Sec. Treas. Riverland ARC

#### MEMBERS PRESENT

Ron Reed	KD9OY
Jim Theisen	KD9EG
Charlie Burch	
Craig Goldbeck	N9ETD
Wid Johnson	W9DM
Dick Low	K0JYB
John Young	W9KAZ
Herman Ludvik	W9HJV
Wm. Winder	K9EGQ
Ernie Gershon	K9ZVU
Dick Konrad (Guest)	K9DXO
Ray Wakeen	WA9HHM
Gary Countryman	KD9RL
Feroz Ghouse	4S7FG
Bob Pluntz	WD9FKV
Van Elston	WA9FIO
Hugh Barker	KA0EJZ
Gary Webb	N9DHQ
Steve Pavela	KA9TSW
John Swing	K9TQT
Rich Marchese (Guest)	N9FDC
Duane Fruechte	W9HWQ
Art Osborn	W0JDC
Greg A. Miller	KA9FOZ
Ken Weigel	N9CDT

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SAD BUT TRUE

Didja know? Your Honorable Editor of BSSS celebrates forty-four years on this planet December 6. Egad! k9zz.

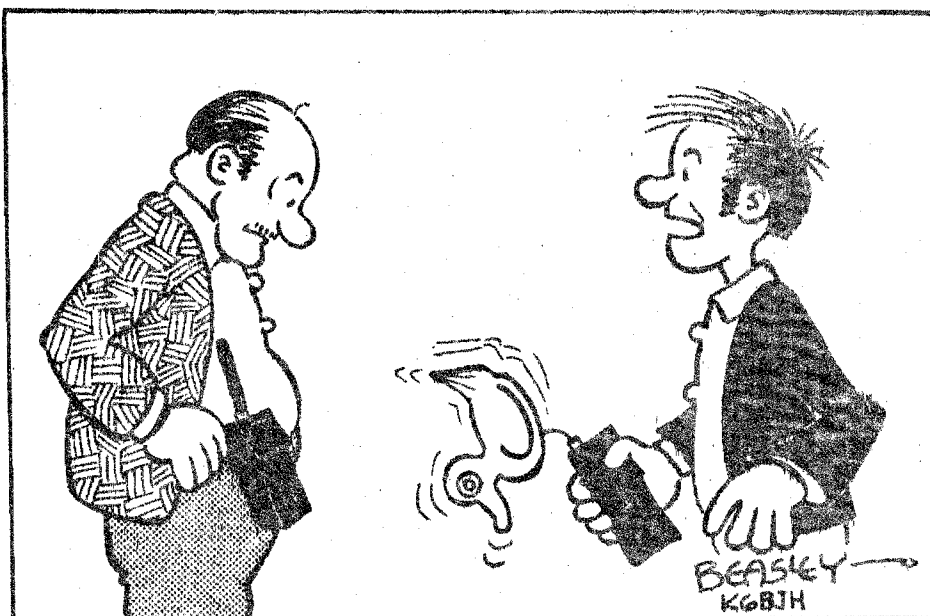


# VARIETY PAGE

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V	I	R	B	R	W	Q	C	U	E	S	U	C	F	P	R
H	V	W	K	Z	W	X	Q	V	F	X	R	X	S	C	T
R	K	X	H	I	G	K	K	V	W	X	Y	L	B	L	A

BWN  
BEN  
WSBN  
WINEARLY  
WINLATE  
WSSN  
WNN  
WRN  
NWTN  
WCWTN  
NETCONTROL  
PSHR  
QSL  
CW  
PHONE  
TRAFFIC

We thought the word-search puzzle buffs might enjoy this... This one concerns Wisconsin nets and has a few general traffic terms. Have fun!



PERSONALLY, I DON'T THINK A RUBBER DUCKY WORKS AS WELL AS ONE OF THEM SHORT, LITTLE FLEXIBLE THINGS.

Have you subscribed to Badger State Smoke Signals yet?

Please look at the subscription rate information you find with each issue.. In this day of all-too-rare true bargains, this one is!

We've been producing this all-volunteer - and, indeed, non-profit, paper for sixteen years.. Your subscription would certainly be appreciated! Subscribe for yourself - or give a gift. Send your check today!

The cartoon above is from the December, 1985, issue of Worldradio... **Reminder:** If you are a VEC, are you send us the results of your exam sessions? We do not publish failures, but successful examinees are good news. Please send us names, calls, and cities of those who pass your exams. Thanx! k9zz

# Cel-Tel: Super-Duper!

A BATTLE LOOMS — AND IT SHOULDN'T  
BE NECESSARY

From The Westlink Report  
November 15, 1985

A major confrontation has developed between Amateur Radio and the cellular telephone industry.

It has occurred because of the cellular lobbying group's intransigent stand against the current right of the general public to monitor telephone — type communications transmitted by radio, including Amateur autopatches.

This dispute has long been in the making, and one which will be fought in the halls of Congress in the form of House Bill HR — 3378 and Senate Bill S — 1667.

The cellular telephone interests, intent on legitimizing their misleading advertising, have managed to convince several Senators and Representatives that a law is needed that will "guarantee" privacy to car phone users.

The Cellular Telecommunications Industry Association has lobbied hard and long to sell the idea to the Congressmen that it is possible to keep the general public from listening in on radio relayed telephone conversations, and thus give phone users privacy on a par with regular phones connected to a twisted pair.

It appears as if the communications industry in general, and the cellular telephone sector in particular, have become "paranoid" over the subject of communications security. They apparently figure that passing a law to prohibit ownership by the public of various forms of receiving gear will afford them with the advertising legitimacy they seek.

The combined bills, which are called the "Electronic Communications Privacy Act of 1985," are not limited in their scope to keeping scanner manufacturers from selling radios for the 800 MHz cellular band. The original purpose of the legislation was to stop computer hackers from violating the security of data processing systems.

The Cellular Telecommunications Industry Association latched onto the

proposal and politicked for certain amendments. Now, the twin House and Senate bills are designed to make any form of even inadvertant eavesdropping on any data communication, telephone call or radio communications into a crime, unless it falls under a specific list of exemptions.

The list is very vague at best, with five rather broad categories. These are "electronic communications made through a system designed so that the communications are readily available to the public... any communication which is for use of the general public as relating to ships, aircraft, vehicles or those persons in situations of distress... communications by walkie — talkie; police or fire communications systems... (and) Amateur and CB radio, excluding GMRS citizens radio communications."

The kicker is that the CTIA wants the monitoring of Amateur Radio autopatch calls made illegal unless you are a party to the conversation. In fact, the group demands that the legislation direct the FCC to set aside designated subbands where Ham autopatches would be operated in total security!

As an alternative, Amateurs might be permitted to encrypt their autopatch communications, currently a violation of Part 97 rules.

Another information source indicates that the CTIA has also become aware of HF autopatching, RTTY, Packet, AMTOR and other so — called specialized modes, and is in the process of modifying its demands to place a "security of communications blanket" over these as well.

Word from Washington sources who attended the recent hearings on the proposed new law is that as far as the CTIA and other cellular and telephone lobby support groups are concerned, this Amateur Radio matter "is a non — negotiable point."

They say, if it is telephone or personal communications, it must be protected, whether the users of the service want the protection or not. CTIA has refused to supply any information to this reporter (Bill Pasternak, WA6ITF), although ascertaining their view has been

attempted.

IF THE BILLS BECOME LAW, THEY WILL AFFECT ALMOST EVERY U.S. CITIZEN WHO MAY OWN AN OLD TV CAPABLE OF "INTERCEPTING" "PRIVATE" COMMUNICATIONS.

We Amateurs must become activists working in opposition to the proposed law.

We must let the general public know that, irrespective of CTIA claims, that it is too late for any law to give 100% content security to cellular telephone, UNLESS THE CELLULAR SERVICE SUPPLIERS ARE WILLING TO ENCRYPT THEIR TRANSMISSIONS.

The public and legislators must be made aware that there are hundreds of millions of television receivers and VCRs which have the ability to easily tune in the cellular channels, which are the former UHF TV channels 70 - 83.

The new law, as proposed, would make their owners into criminals, subject to fine or imprisonment, if they even inadvertently overhear something on a TV set not meant for them. Imagine a federal marshal or FBI agent forced to arrest a homeowner and confiscate his VCR because it receives cellular radio communications!

IT IS IMPORTANT THAT WE INFORM THE PUBLIC AND THE POLITICIANS THAT WHAT CELLULAR TELEPHONE REALLY WANTS IS TO LEGITIMIZE THE FALSE ADVERTISING OF SOME CEL-TEL SUPPLIERS - THOSE WHOSE ADS MAKE THE UNSUSPECTING CONSUMER BELIEVE THAT THE SECURITY OF A CALL MADE OVER A CELLULAR PHONE IS AS GOOD AS ONE MADE AT HOME.

If these facts are made known, the bills will be killed.

NO POLITICIAN WANTS HIS NAME CONNECTED TO A "LIE", AND THIS IS THE "BIG CEL - TEL LIE."

EXPOSE IT by going to every newspaper and radio and TV station in your area. And consider registering a complaint with your local Better Business Bureau or state Public Utility Commission (note - in Wisconsin, it is the Public Service Commission in Madison, and it wouldn't hurt to complain to the Citizens Utility Board, Madison, either) when you come across an ad for a Cellular Radio Phone Service that claims to be totally secure but is not encrypted!

Perhaps this advertising is a good place for federal officials to increase their regulation.

# COMMENT:

Jim Romelfanger, K9ZZ, Editor

(1) Cellular Telephone is trying to impose its will on a totally unrelated service - and it's OUR service! Should we put up with this attempt at outside interference with our service? NO! This is unacceptable.

(2) Some countries - but not ours - require licenses for radio RECEIVERS. This smacks of an attempt to start things in that direction by Cel-Tel interests. The basic reason for our freedom to listen to whatever we wish, whenever we wish, is freedom itself. Should we accept someday having to license every receiver we use? NO! The very idea is repugnant - and unacceptable.

(3) The Cel-Tel interests seem to be interested in assuming the role of the FCC. Do we want a profit-greedy bunch of people in three-piece suits dictating to us what we can and cannot listen to? NO! This is unacceptable.

(4) Probably the most asinine part of the CTIA "proposal" is restricting autopatch calls on OUR repeaters to only those parties in the conversation (in the Amateur Radio Service, remember, NOT in a Cel-Tel commercial band). How does CTIA propose to make us turn our receivers off every time we hear an autopatch call initiated? This is completely impractical - and unacceptable.

(5) CTIA has "become aware" of HF autopatching, RTTY, Packet, AMTOR, and other so-called specialized modes (how do they view CW?). "Become aware!" How astute! They are demanding a "security of communications blanket?" CTIA HAS NO RIGHT OF ANY KIND - AND NO REASON - FOR THIS ATTEMPT AT INTERFERENCE IN A DIFFERENT RADIO SERVICE. It is unacceptable.

They call it a "non-negotiable point!" This is so brazen it certainly sounds much more like the Soviet Union, and I find it very, very hard to believe - or understand - why and how such legislation even came in any legitimate way before the House and Senate. Something is terribly, terribly wrong if this is being looked at seriously by our legislators, who are supposedly reasonable, thinking people. If, in fact, they are reasonable, thinking people, they should be snickering!

We will watch this situation closely, and keep you advised. It shouldn't exist in the first place, and it looks as though it may get even worse! -k9zz



# The Wisconsin Packeteer



## Newsletter Notes

WISCONSIN AMATEUR PACKET RADIO ASSN.  
P.O. Box 1215  
Fond du Lac, WI 54935

W.A.P.R. Steering Committee Meeting  
Waukesha, WI. November 17th, 1985

The members of the W.A.P.R. steering committee met at the Country Inn Sunday morning to discuss current position and direction of the organization. Those in attendance were: WB9SDA, WA4COY, WB9WRW, N9CLE, WD9ESH, WA9SOU, K9EN, WB9UQT, N9BQM, N9EVI, and WB9CHO.

Topics discussed were: Membership, purpose, newsletter, digipeaters, level 3, general meetings, and the dues structure. The meeting went very well. There was encouraging participation by everyone.

Some of the results of this gathering were to be brought forward to the general body at the next meeting, which is tentatively scheduled for January 11, 1986 (details to be announced at a later date). The purpose for this organization was acted upon, it is: To "Promote and Coordinate a Complete Statewide Network for Packet Radio in Wisconsin (CSN)". A few sub-committees were established to supplement our efforts, a technical group, a digipeater study group, and a level 3 planning group.

Captured from the Bulletin Boards  
By Dennis N9EVI

(bbs-w9td)

### "IBM PC PACKET BBS AVAILABLE"

Randy Ray, WASSZL, has developed a packet BBS for the IBM PC and has released it to the PUBLIC DOMAIN. Contact him for details.

### "WABDED Code for the TNC1"

Well, I am using the WABDED code ver 1.0 in the club TNC and it is pretty neat! It has many nice features, even some better than TNC2. What's best is that it appears to be relatively bug-free... In fact it has less protocol bugs than TNC1 code. It will make a good temporary improvement for TNC1 owners until TAPR rev. 4.0 comes out. It has a whole new command structure though, which will make it tuff on BBS operators.

The only problem is that it is sensitive to a peculiarity in older wd1933 ic's. The ones made in 1982 and 1987 with mask set number beginning with "ba" on the bottom. These ic's cause the TNC to "crash" and "hang" when transmitting at times. I think I will talk about the features of this code at the next CAPRA meeting.

By the way, the GLB TNC at N9ATM-2, even though it is only AX25 ver. 1, does repeat ver. 2 packets without crashing.... all other TNCs will not repeat ver. 2, but will not crash. The guys in Milwaukee also verified this with the WRW digipeater which is also using a GLB ver. 3.8 (ATM is ver. 3).

### "TAPR Quitting the TNC business"

TAPR has announced its intention to cease its TNC business after the last 50 or 60 TNC2s of 1200 have been purchased and shipped. TAPR sold the rights to AEA and soon AEA will be producing assembled and tested PKT-80s (TNC2) for about \$200. TAPR will now concentrate on "LINKING"/. There is link controller designed by Lyle that is out of the PC board routing stage, and close to the first prototype stage.

Hope you will all encourage membership to W.A.P.R.; dues are \$7.00 per year, of which \$4.50 pays for your subscription to Badger State Smoke Signals which carries our newsletter; send your name, call, address, & dues to the address at the top of this page.

A REVIEW OF THE WABDED TNC FIRMWARE  
from PSR QUARTERLY October 1985  
by Lynn W. Taylor, WB6UUT

TAPR deserves a lot of credit for designing the original TAPR TNC -- both hardware and software -- as the number of products based on their design attests. In any such project there are tradeoffs and design choices that are made. There are other ways that those choices could have been made. Now Ronald E. Raikes, WABDED, has produced an alternative choice for TNC firmware. How does this new firmware differ from the original, and what are the advantages offered by it?

First of all, I believe the WABDED firmware gets the credit for being the first implementation of AX.25 Layer 2 Version 2. [Such claims need wide exposure to smoke out competing claims before being accepted as fact. ed. PSR] For those who have not yet run the new protocol, you are in for a treat! If two minutes pass with no activity on the link, the TNC sends a poll to the other station. This station responds to the poll, and the link is verified -- no more coming home to



discover that someone connected to you and didn't disconnect. Additionally, when retries occur, the sending station polls the other station asking if the last packet was received, instead of sending the whole packet -- this takes much less network time if the ack simply got lost, or if the path has faded out. Version 1 is of course supported.

The user interface also differs -- while the TAPR firmware offers three modes, (command, converse and transparent), the WABDED firmware offers only two. One mode is a man-machine interface, and the other is for machine-machine communication. It is not necessary to change modes to give commands, and the TNC never changes modes by itself.

Anyone who has written software that communicates with the TNC will appreciate this, as well as those of us who keep sending "conv" over the air. Operating with this firmware is simple: In the user mode, if a line begins with an escape, it's a command, if it begins with anything else, it's data. To establish a connection, you type: (escape) C WABDED W6AMT-3. Note that "C" is the full connect command, and typing the word "connect" is not allowed. Also, the "via" used by the TAPR TNC is missing when the connection is established, the TNC will respond with:

" (1) CONNECTED to WABDED via W6AMT-3 "

When the link is established, simply typing will transmit data to the other party. When you are done, simply type: (escape) D. Dumping commands to the TNC at top speed is very reliable -- I have never had the TNC miss a command.

Of course, it is possible to get fancier: If you are already connected to a station, and want to talk to someone else, typing (escape) S2 will select virtual TNC #2, and another connection may be established. The firmware behaves much like 5 TNC's with an intelligent RS-232 switch. While you are on channel #2, all data received on channels 1, 3 and 4 are stored inside the TNC. Channel zero is the "CQ" channel, and always sends UI frames. As you may have guessed by now, the "1" in the connect message example above signifies a connect on channel 1.

Typing (escape) L gives you a status display, which looks like this:

```
* L
(0) CW via W6AMT-3 W6AMT-2 W6AMT-1 W6AMT
(1) W6IXU via W6AMT-3 W6AMT-2
    receive 6 send 0 unacked 0
(2) KA6IQA via KA6IQA-1
    receive 0 send 0 unacked 0 retries 7
(3)
(4) WB9UUT via KA6IQA-1
    receive 0 send 0 unacked 1 retries 0
```

This display shows connects on channels 1 and 4, a connect in progress on channel 2 and no connection on channel 3. Six lines of text have been received from W6IXU, the connect with KA6IQA has been retried 7 times, and 1 packet has been sent to WB9UUT, but the acknowledgement has not yet been received. The number of unacked frames never exceeds "MAXFRAME." With this firmware, you are always sure if the retries are mounting up.

Other items worth mentioning are a monitor mode which

shows the digipeat list, including a mark showing which digipeater you are hearing, and decoding the control byte, and an "unattended" mode. In unattended mode, the TNC automatically sends a user defined message when it receives a connect.

While there are advantages, this firmware does have some disadvantages. The biggest one, of course is the lack of a transparent mode. This is not a complete oversight: Host mode is transparent, and a small program can be used to send pure binary data over the air. Also, there are a number of programs out there which are designed to use the TAPR user interface. That software will not operate with the WABDED firmware until the program authors write versions tailored for it. I hope those new versions will appear rapidly -- the advantages are significant.

Because of the differences in philosophy and purpose, it is hard to judge which is better, TAPR or WABDED. Each has its own strengths and weaknesses. My personal preference is WABDED; my recommendation: Try it yourself and see!

This firmware (version 1.0 at this writing) is in the public domain for the non-profit use of individuals. If you are interested in getting a copy, look around: It is available on popular computer networks now (such as ARPANET and USENET) and will be on others soon. Copies have also been sent to many areas for distribution. If you need help finding a copy, contact:

Ronald E. Raikes, WABDED  
9211 Pico Vista Road  
Downey, CA 90240

Include a self-addressed stamped envelope (please, don't send EPROMs)

#### from WA9SOU: PRODUCT STATEMENT

In order to meet the increasing need for packet radio TNCs (Terminal Node Controllers) due to the growing popularity of packet radio, Applied Digital Technology of Oxnard, Calif. has purchased the manufacturing rights to the TAPR TNC-1. ADT is providing amateurs who like to "roll their own" the opportunity to purchase the bare TAPR TNC printed circuit boards, TNC systems manuals, and several of the hard to find parts. Those who have access to low priced sources of the parts used in the TNC will benefit greatly by buying the bare board and assembling a unit on their own.

The boards are high quality glass epoxy boards which are solder masked and silkscreened with component locations. The board is essentially a "clone" of the TAPR TNC-1 board since the boards were produced from the PCB artwork provided by them. The manual also is a reproduction of the TAPR systems manual with an added appendix providing a "shopping list" of the parts required to assemble the TNC. The software available from ADT is the latest version available and is preprogrammed into the EPROMs. ADT will support the TNC with upgraded software on EPROMs as it becomes available. For more information, contact:

Applied Digital Technology  
2056 E. Sutter Pl.  
Oxnard, CA 93033  
805 488-5575

## WISCONSIN NETS ASSOCIATION LTD.

## WISCONSIN NETS

NET	WNA	FREQ	UTC	CST	MANAGER
BWN	YES	3984	1200Z	0600	WD911D
BEN	YES	3985	1800Z	1200	WB9ESM
WSDN	YES	3985	2330Z	1730	WA9ZTY
NNN	YES	3723	0000Z	1800	KA9UBP
WSSN	YES	3645	0030Z	1830	N9BDL
WIN-E	YES	3662	0100Z	1900	WB9ICH
WIN-L	YES	3662	0400	2200	KC9CJ
NWTN	YES	34/94	0030Z	1830	W9JSF
WCWTN	YES	31/91	0030Z	1830	N9DHT
GR.BAY	NO	72/12	0245Z	2045	WB9NRK
			THU	WED	
WRN	NO	3625	0000Z	1800	K9UTQ
	RTTY		Mon. Wed. Fri. UTC		
			Sun. Tue. Thu. Local time		

-----  
 Wisconsin Section Traffic Mgr  
 Gene Santoski K9UTQ  
 1220 18th Ave.  
 Wisconsin Rapids, WI 54494  
 -----

Greetings all,

Once again, we are nearing another Holiday Season and with it, increased traffic loads on our NTS nets. This means that we must "be on our toes" and do everything we can to quickly handle the traffic and get it to its destination. Statistically, December is the month with the highest volume of traffic. Lets all do our best to get it where its going.

Very often, delivery of traffic requires a collect phone call. This should be avoided whenever possible. After all, the Amateur Message Service is supposed to be free!

Alternatives? If there is nobody from a given area that checks into the net, it could be hard to deliver a message to that area. But amateur ingenuity expresses itself in other ways than in building hardware and erecting antennas.

Some amateurs on the net may have access to a WATS line and can place the call toll-free. A call on a repeater might raise somebody who can deliver the message, and if it's a MARS message from overseas, MARS members can mail it at government expense. The bottom line is to use whatever means you can think of to get the message to its destination using a collect telephone call only as a last resort or in an EMERGENCY situation.

There's no obligation for any amateur to be a traffic handler; most amateurs are not. But if you claim to be one, accept the responsibilities. And the first responsibility is to do your best to move any message that you have accepted on toward its destination exactly as you have received it and as speedily as you can. If you can't do that for a particular message, you should not accept it. If you're not willing to accept that responsibility, don't call yourself a traffic handler.

QTA is a much abused signal among traffic handlers. As

a question, it is a request for authorization to cancel a message. Without the question mark, it is an order to cancel a message.

The abuse lies in the operators who cancel a message and are not authorized to do so. I'm speaking about operators who send a service message to the originating station: "Your number 13 undeliverable, no phone number, we QTA." You have no right to cancel the message. ONLY the originating station may do that.

If you receive a message and then find out you can't deliver it, or if you are not willing to look up the number in the phone book, you have two options: send a service message back to the originating station explaining why the message can't be delivered, being specific enough for the originating operator to identify the message being serviced and correct any possible garbles in the address, or contact the station from whom you received the message refusing to accept responsibility for delivery.

QTA is proper in this case. It throws the responsibility back on the operator who sent you the message, and who might be a real traffic handler who is willing to lick a stamp occasionally.

Any active traffic handler who hasn't experienced propagation problems these days must be operating exclusively on VHF. Long skip, fadeouts and dead bands seem to be the order of the day. Solar activity is down to quiet sun levels, and Cycle-21 still has two years to run, if it follows the normal 11-year course. While the resulting band openings on 80 meters do help amateurs seeking five-band DX awards, conditions make life miserable for traffic handlers on nets.

Yet in many cases, it's as much the operators trying to carry on business as usual when conditions are unusual, instead of making use of them intelligently. On a net, it's especially the net control station that must take conditions into account, because other stations are supposed to do what they are told. And when told to do the impossible, the result will be a delay at best, and sometimes if conditions deteriorate the lost time will allow the net to fall apart as contacts become spotty or fail completely.

The WCS should keep constantly aware of who can hear whom. No use sending two people off frequency to pass traffic if neither can hear the other. Send along somebody to relay, or else send them to another band - the next lower one if skip is a problem, if they are too close to each other for communication, or to the next higher if they are too far apart.

In the evening, when ranges increase as darkness falls, clear all the short-haul traffic first before skip makes communication impossible over shorter distances. In the morning, for those of you who are on the air before dawn (yes, there are some), if you find you can't hear stations that are too close because of skip, wait until daylight, and you may find the station jump right out of the mud and up to 20 over in a matter of seconds.

But often the problem is that you can't hear net control. When conditions are like that, often an assistant net control station can help much.

The regular NCS selects a station with a good signal and far enough away that either one or the other will be able to hear anyone within the coverage area of the net. Or else, net control can direct another station so situated to make net calls from time to time.

Others in the net should be alert to pick up stations apparently not being heard by net control and pass along the word that somebody is out there.

By now, all the Traffic Training Assistants should have had an opportunity to read through the manuals that they recently received in the mail. Sometime in January, I will be getting together with those six TTAs to go over the manual and answer any questions that they have. I would like to see some experienced traffic handlers in the Superior, LaCrosse, Oshkosh/Appleton/Fond du Lac and Green Bay areas to consider becoming a TTA. We need people in those areas to have the State well covered for training purposes. By the way, these training sessions could be given on local 2-meter repeaters as well as at club meetings.

That's it for now. I hope you all have a very happy and safe Holiday Season.

73, Gene, K9UTQ

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#### TRUNKED RADIO?

By Richard R. Regent K9GDF  
Technical Coordinator WI  
5003 South 26th Street  
Milwaukee WI 53221

The 146.91 Repeater Group's September meeting was followed by a great program given by Joe, WD9ISD.

Here's my recollection of the program. It might give someone an idea for the new 902-928 MHz band.

The commercial repeater industry still leads Amateur Radio in mobile technology. Besides cellular radio systems, used mostly for mobile telephone conversations, there's another system called 800 MHz Trunked Radio.

You might think that the control head is under the dash board, and the transceiver is hidden in the trunk. True, but not why it is called Trunked Radio. Instead, the system works with computer technology to effectively find and switch to open channels, called "trunking" - the real reason why it is called "trunked radio."

It's a system that makes efficient use of spectral space, helping take the pressure off commercial facilities to take away our Amateur Radio frequencies.

But, capabilities increase with the number of repeaters. For example, a five repeater system is able to handle several hundred users. Each mobile radio has its own personality recorded in nonvolatile memory which determines what priorities, frequencies and sub-fleet it can handle.

With a 45 MHz split in the 800 MHz range, full duplex is commonly used, and a special handset makes it both look and operate like a telephone.

Sub-audible tones of digital information are sent continuously from the control repeater, which coordinates activities between the Central Processing Unit (CPU) and the mobiles. The radio listens to the control repeater; if it gets confused, or if there is a fadeout, it can get information to lock back onto the right channel, all within 300 milliseconds.

Even during peak use periods, access time for a channel is seldom more than a few seconds. Make a call when you're out of range, or when the system is busy, and you get a brief busy signal, but the radio will automatically give a triple-beep when you're back in range, or a channel is available.

With all the frequency changes taking place between transmissions, it's difficult for an eavesdropper or unauthorized mobile operator to monitor a call, even with a scanner receiver - a big plus for security.

What if a mobile radio unit is stolen? Repeater central can put the stolen unit on the "bad boy" list in computer memory, then that unit will be locked out of further communications. Worse yet, the central computer can send a "drop dead" command to the stolen unit and wipe out its memory, making it useless as a radio without extensive and sophisticated reprogramming back at the shop.

The central controller can even tell a radio to transmit, without microphone audio, to assist the authorities in finding the radio with directional receiving equipment.

With all this computer power, it's easy to log, sort or select records, and to print reports, from showing how many minutes each unit has transmitted, to sending out itemized bills. Yes, some of these systems are IBM compatible.

Trunked Radio systems have more features than you can shake a rubber duck at, and commercial fleet communicators like them.

After checking into common carrier regulations and proper licensing, you might want to start your own trunked radio system. First, find an antenna site. Next, install an antenna with circulators to handle several 800 MHz frequencies. Then, purchase a five-repeater base station and CPU, which cost around one quarter of a million dollars, and several fully loaded touch tone pad 35-watt mobile radios, which cost around \$3,000 per unit.

There you have it.. You're in business with the latest technology, a trunked radio system.

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#### SWAPNETS

Add to the Swapnets recently listed in Smoke Signals, the Tomahawk Swapnet on 144.83(in)/145.43(out).  
(Thanks N9CLE)

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John Antonuk, KD9QR (ex-WD9IL6) has moved to Anchorage, Alaska from Madison to take the position of Chief Operator at KBYR/KNIK-FM. Good Luck, John.

## YELLOW THUNDER AMATEUR RADIO CLUB

The November 13, 1985 meeting of the Yellow Thunder Amateur Radio Club, Inc. Was called to order in room 30 of the Baraboo Civic Center by Vice President, Duane Grotophorst, KA9HKL.

The following members were present:

Duane Grotophorst, KA9HKL	Sauk City
Ken Ebnetter, K9EN	Portage
Jim Decker, WB9UQT	Baraboo
Maurey Gurgel, KA9TBU	Reedsburg
Harry Westlund, K9EHJ	Baraboo
Harry Mayland	Baraboo

The minutes of the September meeting were approved as printed in Badger State Smoke Signals. The Treasurers report was read and accepted. The present balance in all accounts is \$200.99.

Communications and announcements:

Exchange papers were passed around for anyone to read. A few brief items were read from Westlink Report and the ARRL Letter.

The Executive committee reported that they had purchased a Century 21 Transceiver and keyer from Paul, KA9OPB, for \$175.00. The rig will be available for loan to Novice club members.

Old Business: None.

New Business:

Nomination of officers: The present officers were re-nominated to their respective posts. Election of officers will take place at the December meeting. (Nominations will be open from the floor for additional nominations.)

It was decided to hold Novice classes starting in January. News releases and information will be prepared and distributed.

The door prize was \$5.00. It was won by W9TP who was not present. The prize will be \$6.00 for the December meeting.

The next meeting will be Thursday, December 12, 1985. This will be the annual meeting for election of officers and the Christmas party. Please bring a small gift to exchange. (Less than two dollars.) We will have the Century 21 transceiver there for inspection and a code reader.

The meeting was adjourned.

Respectfully submitted,  
Kenneth A. Ebnetter, K9EN, Secretary

YTARC BIRTHDAY:

Duane Grotophorst KA9HKL, Sauk City	December 31
Art Kleefisch W9WSS, Baraboo	December ??

Our congratulations to the above Birthday people, and to our own Badger State Editor, K9ZZ, celebrating his birthday on December 7. Many happy returns to all.

Sentence Sermon:

God is never far away when men are at peace with another.

---James I. Vance

UW-MADISON -- W9YT

The UW-Madison Amateur Radio Club is in dire need of equipment for it's station W9YT. The club has a program of theory and code study that is leading to the licensing of many new Hams, some of whom are handicapped and require special equipment so they can operate. Like most students, they are full of enthusiasm but short of money. Any equipment, parts, cannibalized gear, computers, or whatever will be put to good use by the students. Any donation of equipment is tax deductible and the club will make arrangements to pick it up if you cannot deliver it. Every donor will receive receipt for their donation and the name, call, and date will be inscribed on a plaque that is permanently hung on the station wall.

To donate, simply contact W9YT at:

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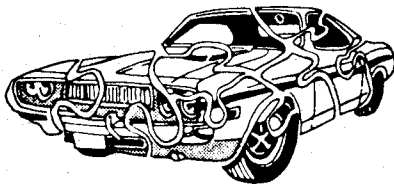
---Albert Einstein, 1929

Don't miss the ORIGINAL MIDWINTER SWAPFEST, sponsored by the West Allis RAC at the Waukesha County Expo Grounds, On Saturday, January 11, 1986. This is a biggie sponsored by one of our Badger State Boosters. WARAC, P.O. Box 1072, Milwaukee, WI 53201

Seasons Greetings de BSSS staff.



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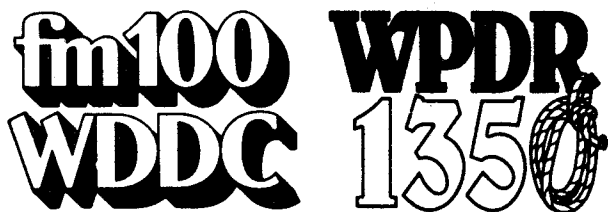
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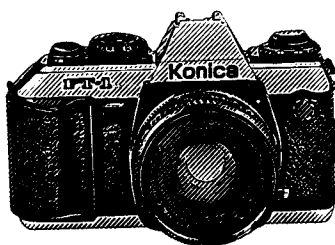
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Dear Fellow Radio Amateur:

If you are not a regular recipient of Badger State Smoke Signals, this sample copy is to introduce our publication to you, and invite you to join our regular readers. Smoke Signals has been published monthly for over 15 years. Originally published as the club paper for the Yellow Thunder Amateur Radio Club, it has been, for the past two years, a state-wide publication.

Badger State Smoke Signals will carry current Amateur Radio news, news about YELLOW THUNDER ARC, RIVERLAND RADIO CLUB, WNA, WAPR, ARRL and other clubs and groups in Wisconsin as well. You will be kept apprised of what is happening in our hobby - locally, regionally, nationally and around the world. Among the many features will be Sentence Sermons, member birthdays, swapfest calendar, ARRL section news, humor and excellent feature articles by well-known Amateurs in Wisconsin and elsewhere. Reports will be included from ARRL Bulletins, ARRL Newsletters, and Westlink Reports, along with items of interest from exchange newsletters and the ARNS.

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